

### **REMARKS**

Applicants submit this Request for Reconsideration in response to the Final Office Action mailed on November 30, 2009. Claims 34-40, 42, and 44-51 are submitted for examination, of which claim 34 is independent.

In the Final Office Action, the Examiner rejected claims 34-38 and 41-48 under 35 U.S.C. § 103(a) as being unpatentable over WO 02/47092 ("Belli") in view of U.S. Pat. No. 6,220,224 ("Matthies") and U.S. Pat. Pub. No. 2004/0011193 ("Moe"); rejected claim 39 under § 103(a) as being unpatentable over Belli in view of Matthies and Moe and further in view of U.S. Pat. No. 3,968,463 ("Boysen"); rejected claim 40 under § 103(a) as being unpatentable over Belli in view of Matthies and Moe and further in view of U.S. Pat. No. 4,107,354 ("Wilkenloh"); rejected claim 49 under § 103(a) as being unpatentable over Belli in view of Matthies and Moe and further in view of U.S. Pat. No. 6,884,823 ("Pierick"); rejected claim 50 under § 103(a) as being unpatentable over Belli in view of Matthies and Moe and further in view of U.S. Pat. No. 4,961,845 ("Dawson"); and rejected claim 51 under § 103(a) as being unpatentable over Belli in view of Matthies and Moe and further in view of U.S. Pat. No. 4,877,568 ("Austin").

Applicants respectfully traverse all pending rejections for at least the reasons discussed below.

#### **Rejections Under 35 U.S.C. § 103(a)**

Applying 35 U.S.C. § 103(a), the Examiner rejected claims 34-38 and 41-48 as being unpatentable over Belli in view of Matthies and Moe; rejected claim 39 as being unpatentable over Belli in view of Matthies and Moe and further in view of Boysen; rejected claim 40 as being unpatentable over Belli in view of Matthies and Moe and

further in view of Wilkenloh; rejected claim 49 as being unpatentable over Belli in view of Matthies and Moe and further in view of Pierick; rejected claim 50 as being unpatentable over Belli in view of Matthies and Moe and further in view of Dawson; and rejected claim 51 as being unpatentable over Belli in view of Matthies and Moe and further in view of Austin. To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See M.P.E.P. § 2142, 8th Ed., Rev. 5 (August 2006). Moreover, “in formulating a rejection under 35 U.S.C. § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.” USPTO Memorandum from Margaret A. Focarino, Deputy Commissioner for Patent Operations, May 3, 2007, page 2.

A *prima facie* case of obviousness has not been established because, among other things, none of Belli, Matthies, Moe, Boysen, Wilkenloh, Pierick, Dawson, and Austin, alone or in any combination, teaches or suggests every feature of Applicants’ claims. Specifically, none of the references cited by the Examiner teaches or suggests “feeding said liquid to a plurality of storage tanks, each storage tank being in fluid communication with at least a pair of the pumping units via at least a pair of respective feeding lines,” as recited in independent claim 34.

In the Final Office Action, the Examiner contends that independent claim 34 is unpatentable over Belli in view of Matthies and Moe. Specifically, the Examiner asserts that Matthies teaches “feeding said liquid to a plurality of storage tanks,” but concedes that reference does not disclose “each storage tank being in fluid communication with at

least a pair of the pumping units via at least a pair of respective feeding lines.” The

Examiner cites Belli to cure this deficiency, reasoning:

While Matthies et al. teaches that each high pressure storage device 3 or storage tank is in fluid communication with just a single feed line 2, in Belli et al.’s original invention, the processing unit 17 is in fluid communication [with] three pumping units 26’ via three outlet or feed lines 29. When modifying Belli et al.’s invention with Matthies et al.’s teaching as described above, one of ordinary skill in the art would have been faced with the question of whether to conserve Belli et al.’s arrangement of three outlet or feed lines converging to a single destination or to adopt Matthies et al.’s arrangement of one feed line per storage tank.

Office Action at 3 (emphasis added).

However, the Examiner mischaracterizes Belli’s disclosure. Contrary to the Examiner’s assertion, Belli does not teach or suggest “[an] arrangement of three outlet or feed lines converging to a single destination” and kept under pressure. Id. Rather, Belli teaches three outlet lines 29 extending from a pump 26, each outlet line terminating in a separate injector. These injectors are angularly staggered with respect to one another around a cross section of an extruder in order to distribute a liquid provided therein as homogeneously as possible in the molten polymer material located inside the extruder. Belli at page 20. Belli explains:

As represented diagrammatically, said device 90 consists of three separate injectors, each of which is connected to a different outlet line 29 of the pumping heads 26’.

Belli at page 24, lines 22-25.

The Examiner appears to concede that Belli teaches such an arrangement comprising three distinct injectors in his rejection of Applicants’ dependent claim 48, which recites, “The method according to claim 47, wherein said step c) of injecting the liquid is carried out at a plurality of injection points angularly staggered by a

predetermined angle in a zone of the extruder in which said mass is in a molten state.” In rejecting this claim, the Examiner states, “Belli et al. further disclose[s] a device 90 comprising three separate injectors located 120° away from each other on the same cross section of the extruder 10 (pg 20 line 34 through pg 21 line 2).” Office Action at 6. Thus, it is inconsistent, and a mischaracterization of Belli, for the Examiner to also allege that the reference teaches “[an] arrangement of three outlet or feed lines converging to a single destination” that would be comparable to a storage tank. Office Action at 3.

As the Examiner correctly explained with respect to Applicants’ dependent claim 48, Belli teaches three outlet lines each terminating in a separate injector. Therefore, that reference cannot be properly construed to teach or suggest an “arrangement of three outlet or feed lines converging to a single destination.” It follows that no proper combination of Belli and Matthies teaches or suggests, “feeding said liquid to a plurality of storage tanks, each storage tank being in fluid communication with at least a pair of the pumping units via at least a pair of respective feeding lines,” as recited by independent claim 34. Further, no other reference cited by the Examiner cures the deficiencies of Belli and Matthies.

Moreover, in the Office Action, the Examiner asserts, “Matthies et al. further disclose[s] the use of high pressure storage devices as advantageously eliminating the need for additional elements such as return valves (Column 2 lines 40-48).” Office Action at 3. The Examiner then concludes that a person of ordinary skill in the art would have used the storage devices of Matthies in Belli’s process, the rationale to combine being based on the alleged teaching of Matthies that to do so would predictably result in

a liquid injection process that eliminates the need for return valves. However, the Examiner mischaracterizes Matthies.

Contrary to the Examiner's assertions, Matthies, in fact, discloses that fuel injection systems are known, including high-pressure storage devices provided as individual storage devices for each fuel injector, but that such systems are affected by the drawback of a mutual influencing of the pressure in the separate high-pressure storage devices, a drawback which occurs if appropriate measures are not undertaken. Such measures could be constituted, for example, by the adoption of a return valve and of a throttle as disclosed by DE 43 41 543 A1. See Matthies at col. 1, lines 30-col. 2, line 4.

In order to avoid such a drawback, Matthies recognized that "a variation of the diameter  $D_2$  of the high-pressure lines leading from the common inlet pipe to the high-pressure storage devices results already within a relatively small range in a significant change of the difference in the quantities injected by the individual fuel injectors and has a pronounced minimum in the range of the optimal diameter. By using this minimum, the fuel injection system can be designed such that the difference in the injected quantities is minimal and uniform ignition pressures can be achieved from one cylinder to the next. The minimum of the difference in the injected quantities indicates that the mutual influence of the individual pressure storage spaces also has a minimum." Matthies at col. 2, lines 25-39 (emphasis added).

Matthies further explains, "The significant influence of the diameter  $D_2$  of the high-pressure lines 2 on the difference in the quantities injected by the individual fuel injectors can be explained by a strong damping of the returning pressure waves

occurring during the opening and closing of the fuel injectors 5 in the high-pressure lines, by means of which pressure waves a mutual influencing of the individual high-pressure storage devices 3 and thus of the fuel quantities emitted by these high-pressure storage devices 3 to the fuel injectors 5 can be kept very low without additional measures, for example, by means of return valves or throttles.” Matthies at col. 5, lines 37-48 (emphasis added).

Thus, the Examiner’s rationale for combining Matthies with Belli, based on the alleged advantageous effects attributed to the use of high pressure storage devices lacks proper basis. According to Matthies, such advantageous effects are not the consequence of using the pressure storage devices, which, on the contrary, are the very source of the problem, but rather by the adoption of a specific diameter D<sub>2</sub> of the high-pressure lines 2 connecting the common inflow pipe 1 with the storage devices 3.

Lastly, in the Office Action, the Examiner asserts, “Moe et al. teach[es] that having three pistons or pump units operating out of phase with each other is better than having a single piston or pump unit because, with the so-called triplex pump, the fluid flow is continuous and fluctuates less (paragraph 0008).” Office Action at 3. The Examiner then concludes, “[I]t would have been obvious to one of ordinary skill in the art to have plural feed lines from plural pumping units feed into each storage tank in the method taught by Belli et al. and modified in view of Matthies et al. in order to assure continuous flow while eliminating the need for additional elements such as return valves.” Id. at 4. Again, however, Applicants believe the Examiner has mischaracterized the cited references.

Contrary to the Examiner's assertions, Moe, in fact, never teaches a piston pump having different units connected to different feeding lines. To the contrary, Moe constantly refers to a single stream of fluid flow, the fluctuations of which are dampened by properly angularly staggering the pistons. Thus, in the very paragraph mentioned by the Examiner, Moe teaches, "It is known to use three pistons operated by a common crank and mutually out of phase by 120 angular degrees. By so doing, there is always one piston executing a power stroke. Thus the fluid flow never stops completely. Such so-called triplex pumps are considerably better than pumps with one or two pistons, with regard to fluctuations in the fluid flow." Moe at para. [0008] (emphasis added).

Thus, properly applying the teaching of Moe to Belli, an ordinary person skilled in the art would have been prompted to modify the pumping heads 26' of Belli in order to be angularly staggered and to combine the three feeding lines 29 of Belli into a single line so as to dampen the fluctuations of the thus derived single stream of fluid flow. In other words, Moe would teach away from any arrangement of independent feed lines per destination. As a result, the rationale for combining Moe and Belli is flawed and would, at best, have led one of ordinary skill in the art to an arrangement of parts entirely different from those claimed.

Therefore, and in light of all the aforementioned remarks, no proper combination of Belli, Matthies, and Moe teaches or renders obvious Applicants' independent claim 34.

Accordingly, Applicants respectfully request the Examiner reconsider and withdraw the rejection of independent claim 34 under 35 U.S.C. § 103(a) as being

unpatentable over Belli, Matthies, Moe, Boysen, Wilkenloh, Pierick, Dawson, and Austin.

Moreover, claims 35-40, 42, and 44-51 depend from independent claim 34 and, thus, contain all the elements and recitations thereof. As a result, dependent claims 35-40, 42, and 44-51 are allowable at least due to their corresponding dependence from independent claim 34.

### **Claim Scope**

It is to be understood that Applicants are in no way intending to limit the scope of the claims to any exemplary embodiments described in the specification or abstract and or shown in the drawings. Rather, Applicants believe that they are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

If the Examiner believes that a telephone conversation might advance prosecution of this application, the Examiner is cordially invited to call Applicants' undersigned attorney at (404) 653-6435.

Applicants respectfully submit that the Final Office Action contains a number of assertions concerning the related art and the claims. Regardless of whether those assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.



Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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